

REMARKS/ARGUMENTS

The method invention of claims 8-10 has been withdrawn from consideration under a restriction requirement.

The specification, abstract, and Fig. 1 have been revised as required.

The apparatus claims 1-7 and 11 have been canceled and replaced by new claims 12-29. No claim fees are due.

Claims 1-7 and 11 were rejected over Scheeres in view of Schuchardt. The rejection is moot in view of the cancellation of claims 1-7 and 11.

The applicant submits the following comments on the references.

Schuchardt's device passes material through wavelike or zigzag bars, which are always flat. However, a flat shape has a higher flow resistance than a round shape. Hence, referring to claims 23-25, the conduits and reactor may have a rounded cross-sectional shape, unlike the flat bars of the reference. Therefore, the machine of claims 23-25 presents significantly less resistance to the passing of the raw material, so it consumes less energy.

Schuchardt has two intakes and two outlets for the element that transmits heat, these intakes and outlets being located at the same height and at 90 degrees from each other, that is to say, perpendicularly, like a cross. In the machine of claim 22, in contrast, the intake is located at the bottom of the reactor and the outlet is placed at the top. Hot oil enters from the bottom of the reactor, passes through the hollow walls of the chamber (21) and runs through the tubes (20), which connect the other chamber (22) in all directions. Then, oil runs towards the outlet (located at the top of the reactor) and passes again through the heater, circulating inside a closed system through a pump (9).

In Schuchardt, the material flows because it is softened by the action of heat and because of gravity. In the machine of claims 28-29, the material is forced to pass through the reactor towards the outlet using a mechanical device.

Referring now to Scheeres, that machine feeds raw material by dosages, refer to Fig. 14, ref. no. 91 (cylindrical container). In the machine of claim 28, the reactor is fed by feeding equipment.

In Scheeres, the waste is softened using heat in the walls of the machine. Waste softening is higher in the periphery than in the center. There is as much as 10°C of difference. In the machine

of claims 14, 16 and 17 and their dependent claims, the walls of the chambers and the tubes of the reactor both soften the material. Waste softening occurs both at the periphery and in the center.

Scheeres' machine uses electrical resistances to heat the walls. The machine of claims 13-27 uses a fluid medium, such as an oil, for heat transfer, which heats when running through the equipment (Fig. 1, ref. no. 14), and which circulates again and again, which makes the use of calorific energy more efficient. This way, the heat is re-used in a proportion of at least 90%, since this is a closed system; see Figs. 2 and 3.

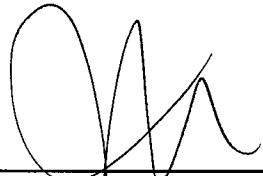
Scheere's feeds the raw material by gravity. In the machine of claim 29, the waste flows because of mechanical pressure, getting more efficiency.

In view of the foregoing amendments and remarks, reconsideration and allowance of claims 12-29 is requested.

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Respectfully submitted,



James A. Finder

Registration No.: 30,173

OSTROLENK, FABER, GERB & SOFFEN, LLP

1180 Avenue of the Americas

New York, New York 10036-8403

Telephone: (212) 382-0700